



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/888,887	06/25/2001	Duck-Young Jung	SUN-0013	1171

23413 7590 07/30/2003

CANTOR COLBURN, LLP  
55 GRIFFIN ROAD SOUTH  
BLOOMFIELD, CT 06002

EXAMINER

PYO, KEVIN K

ART UNIT

PAPER NUMBER

2878

DATE MAILED: 07/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/888,887

Applicant(s)

JUNG ET AL.

Examiner

Kevin Pyo

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_\_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

***Drawings***

1. Figures 1, 2, 6a, 6b, 7a and 7b should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Specification***

2. The disclosure is objected to because of the following informalities:

On page 4, line 3, “.” should be changed to --.--.

In claim 15, line 2, “imageprocessor” should be changed to --image processor--.

In claim 16, line 1, “time” (second occurrence) should be deleted.

Applicant's cooperation is requested in correcting any additional errors of which applicant become aware in the disclosure.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

Art Unit: 2878

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Prior Art Fig.1 (hereinafter REF) in view of Mu-Tung et al (U.S. Pat. No. 5,514,864).

Regarding claims 1, 4, 6, 7, 9, 11, 12, 15 and 17, REF shows the following elements of applicant's claim: a) light source (10); b) a photo image sensor (12); c) an electric shutter (13); d) an image processor (15) and e) a system controller (16). REF differs from the claimed invention in that it does not disclose a luminous intensity controller for controlling a luminous intensity of the light rays which are radiated from a light source to an object according to the photo image signal. However, Mu-Tung et al discloses that the use of photo-electric automatic feedback compensation control with a CCD scanner (i.e. a photo image sensor) to efficiently bring the CCD scanner into optimal operating range by controlling the output intensity of a light source based upon output readings from the CCD is known in view of increasing the signal-to-noise ratio (see Abstract). It would have been obvious to one of ordinary skill in the art to include the feedback of Mu-Tung et al in the device of REF for controlling the output intensity of a light source in view of increasing the signal-to-noise ratio.

Regarding claims 2 and 8, REF shows in Fig.1 an A/D converter (14).

Regarding claim 3, REF shows in Fig.1 a system controller (16).

Regarding claims 5, 10, 14 and 19, Mu-Tung et al discloses in col.3, lines 53-56 that a feedback voltage control signal is used to adjust the output intensity of a light source (5).

Art Unit: 2878

Regarding claim 13, the specific feedback signal used would have been obvious to one of ordinary skill in the art in view of design requirements, the level of accuracy desired, the specific type of a light source utilized, etc.

Regarding claim 18, the specific configuration used for controlling an electric shutter of REF would have been obvious to one of ordinary skill in the art in view of the desired performance.

Regarding claim 14, Mu-Tugn et al disclose that a photovoltage from the CCD is

Regarding claims 16 and 20, REF shows in Fig.1 the exposing time interval control signal is outputted by using a photocurrent or a photovoltage generated by a photo image sensor (12).

### *Conclusion*

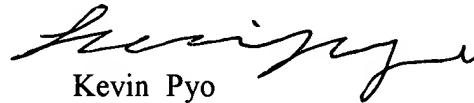
6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kasai is cited for disclosing a light source with a PWM modulation circuit.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Pyo whose telephone number is 703-308-4841. The examiner can normally be reached on Mon-Fri (with flexible hour), First Mon. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 703-308-4852. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Art Unit: 2878

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



Kevin Pyo  
Primary Examiner  
Art Unit 2878

pkk  
July 10, 2003